Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-4. (canceled)

5. (currently amended) A method of diagnosing hepatocellular carcinoma in a human patient, comprising:

(a) detecting the level of expression in a tissue sample of two or more genes from Tables 3A, 3B, 5, 7A, 7B, 8A and 8B [3-9]; wherein differential expression of the genes in Tables 3A, 3B, 5, 7A, 7B, 8A and 8B [3-9] is indicative of hepatocellular carcinoma.

6. (currently amended) A method of detecting the progression of hepatocellular carcinoma in a human patient, comprising:

(a) detecting the level of expression in a tissue sample of two or more genes from Tables 3A, 3B, 5, 7A, 7B, 8A and 8B [3-9]; wherein differential expression of the genes in Tables 3A, 3B, 5, 7A, 7B, 8A and 8B [3-9] is indicative of hepatocellular carcinoma progression.

7. (currently amended) A method of monitoring the treatment of a human patient with hepatocellular carcinoma, comprising:

(a) administering a pharmaceutical composition to the patient;

(b) preparing a gene expression profile from a cell or tissue sample from the patient; and

(c) comparing the patient gene expression profile to a gene expression from a cell population comprising normal liver cells or to a gene expression profile from a cell population comprising hepatocellular carcinoma cells or to both.

8. (canceled)

A 9. (currently amended) A method of diagnosing a metastatic liver [tumor] cancer in a human patient, comprising:

(a) detecting the level of expression in a tissue sample of two or more genes from Tables 4A, 4B, 5, 6A, 6B, 9A and 9B [3-9]; wherein differential expression of the genes in Tables 4A, 4B, 5, 6A, 6B, 9A and 9B [3-9] is indicative of metastatic liver cancer.

5 10. (currently amended) A method of detecting the progression of a metastatic liver cancer in a human patient, comprising:

(a) detecting the level of expression in a tissue sample of two or more genes from Tables 4A, 4B, 5, 6A, 6B, 9A and 9B [3-9]; wherein differential expression of the genes in Tables 4A, 4B, 5, 6A, 6B, 9A and 9B [3-9] is indicative of a metastatic liver cancer progression.

6 11. (currently amended) A method of monitoring the treatment of a human patient with a metastatic liver cancer, comprising:

(a) administering a pharmaceutical composition to the patient;

(b) preparing a gene expression profile from a cell or tissue sample from the patient; and

(c) comparing the patient gene expression profile to a gene expression from a cell population comprising normal liver cells or to a gene expression profile from a cell population comprising metastatic liver tumor cells or to both.

12. (canceled)

7 13. (currently amended) A method of differentiating metastatic liver cancer from hepatocellular carcinoma in a human patient, comprising:

(a) detecting the level of expression in a tissue sample of two or more genes from Tables 3-9; wherein differential expression of the genes in Tables 3-9 is indicative of metastatic liver cancer rather than hepatocellular carcinoma.

14 – 46. (canceled)

8 47. (currently amended) A method of claim [1] ~~5~~ 1 or ~~9~~ 4, wherein the level of expression of 5 or more genes from [Tables 3-9] one or more tables selected from the group consisting of Tables 3A, 3B, 4A, 4B, 5, 6A, 6B, 7A, 7B, 8A, 8B, 9A and 9B is detected.

9 48. (currently amended) A method of claim [1] ~~5~~ 1 or ~~9~~ 4, wherein the level of expression of 10 or more genes from [Tables 3-9] one or more tables selected from the group consisting of Tables 3A, 3B, 4A, 4B, 5, 6A, 6B, 7A, 7B, 8A, 8B, 9A and 9B is detected.

10 49. (currently amended) A method of claim [1] ~~5~~ 1 or ~~9~~ 4, wherein the level of expression of 100 or more genes from [Tables 3-9] one or more tables selected from the group consisting of Tables 3A, 3B, 4A, 4B, 5, 6A, 6B, 7A, 7B, 8A, 8B, 9A and 9B is detected.

11 50. (currently amended) A method of claim [1] ~~5~~ 1 or ~~9~~ 4, wherein the level of expression is compared to the gene information in [Tables 3-9] one or more tables selected from the group consisting of Tables 3A, 3B, 4A, 4B, 5, 6A, 6B, 7A, 7B, 8A, 8B, 9A and 9B.

12 51. (currently amended) A method of diagnosing [liver cancer] hepatocellular carcinoma or metastatic liver cancer in a human patient comprising:

(a) preparing a gene expression profile from a tissue sample; and

(b) comparing the gene expression profile to a database comprising part of the data in Tables 3-9.

13 52. (previously presented) A method of claim ~~51~~ 12, wherein the cancer is hepatocellular carcinoma.

14 53. (currently amended) A method of claim ~~51~~ 12, wherein the cancer is metastatic [lung] liver cancer.

54. (canceled)

15 ~~55~~. (previously presented) A method of claim ~~51~~ 12, wherein the database comprises all of the data from Tables 3-9.

~~56~~. (canceled)

16 ~~57~~. (previously presented) A method of claim ~~51~~ 12, wherein the database comprises gene expression information for all of the genes from Tables 3-9.

17 ~~58~~. (new) A method of diagnosing hepatocellular carcinoma in a human patient, comprising:

(a) detecting the level of expression in a liver tissue sample of two or more mRNA species from Table 3A, 3B, 5, 7A, 7B, 8A or 8B; and

(b) comparing the detected level of expression to the level of expression of said two or more mRNA species in a hepatocellular carcinoma liver tissue sample, thereby diagnosing hepatocellular carcinoma in the patient.

18 ~~59~~. (new) A method of diagnosing metastatic liver cancer in a human patient, comprising:

(a) detecting the level of expression in a liver tissue sample of two or more mRNA species from Table 4A, 4B, 5, 6A, 6B, 9A or 9B; and

(b) comparing the detected level of expression to the level of expression of said two or more mRNA species in a metastatic liver cancer tissue sample, thereby diagnosing metastatic liver cancer in the patient.

19 ~~60~~. (new) A method of claim ~~58~~ 17, wherein the level of expression of said 2 or more mRNA species in a hepatocellular carcinoma liver sample is in Table 3A, 3B, 5, 7A, 7B, 8A or 8B.

20 ~~61~~. (new) A method of claim ~~59~~ 18, wherein the level of expression of said 2 or more mRNA species in a metastatic liver cancer sample is in Table 4A, 4B, 5, 6A, 6B, 9A or 9B.

REMARKS